



Key Terms

- Drilling Rig
- Fossil Fuel
- Jobbers
- Kerosene
- Nonrenewable
- Oil Derrick
- Oil Refinery
- Refined

Products Made from Petroleum

- Aspirin
- Balloons
- Cameras
- Contact lenses
- Crayons
- Deodorant
- Detergents
- Footballs
- Glue
- Golf balls
- Hand lotion
- Paint brushes
- Pajamas
- Perfumes
- Shampoo
- Shoe polish
- Sunglasses
- Tires
- Toothbrushes
- Toothpaste
- Trash bags

Petroleum

What is petroleum?

Petroleum is a *fossil fuel*. It is a fossil fuel because it was formed from the remains of tiny sea plants and animals that died millions of years ago.

When the plants and animals died, they sank to the bottom of the oceans. Here, they were buried by thousands of feet of sand and silt. As the layers increased, they pressed harder and harder on the decayed remains at the bottom. The heat and pressure changed the remains, and eventually, petroleum was formed.

Petroleum deposits are locked in porous rocks almost like water is trapped in a wet sponge. When crude oil comes out of the ground, it can be as thin as gasoline or as thick as tar.



Petroleum is nonrenewable.

Petroleum is called a *nonrenewable* energy source because it takes millions of years to form. We cannot make new petroleum reserves. Petroleum is often called crude oil or oil.

The History of Oil

People have used petroleum since ancient times. The ancient Chinese and Egyptians burned oil to light their homes.

Before the 1850s, Americans used whale oil to light their homes. When whale oil became scarce, people skimmed the oil that seeped to the surface of ponds and streams. The demand for oil grew and in 1859 Edwin Drake drilled the first oil well near Titusville, Pennsylvania.

At first, the crude oil was *refined* or made into *kerosene* for lighting. Gasoline and other products made during refining were thrown away because people had no use for them. This all changed when Henry Ford

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began mass producing automobiles in the 1890s. Everyone wanted an automobile, and they all ran on gasoline. Today, Americans use more petroleum than any other energy source, mostly for transportation.

Producing Oil

Geologists look at the types of rocks and the way they are arranged deep within the earth to determine whether oil is likely to be found at a location. Even with new technology, oil exploration is expensive and often unsuccessful. Of every 100 new wells drilled, only about 44 produce oil.

When scientists think there may be oil in a certain place, a petroleum company brings in a *drilling rig* and raises an *oil derrick* that houses the tools and pipes they need to drill a well. The typical oil well is about one mile deep. If oil is found, a pump moves the oil through a pipe to the surface.

Nearly one-fifth of the oil the U.S. produces comes from offshore wells. Some of these wells are a mile under the ocean. Some of the rigs used to drill these wells float on top of the water. It takes a lot of money and technology to find oil and drill under the ocean.

Texas produces more oil than any other state, followed by Alaska, California, Louisiana and Oklahoma - in that order. Americans use much more oil than we produce. Today, the U.S. buys almost two-thirds (65 percent) of the oil it uses from foreign countries.

From Well to Market

We can't use crude oil as it comes out of the ground. We must change it into fuels that we can use. The

first stop for crude oil is at an *oil refinery*. A refinery is a factory that processes oil. The refinery cleans and separates the crude oil into many fuels and products. The most important one is gasoline. Some other petroleum products are diesel fuel, heating oil and jet fuel.

Shipping Petroleum

After the refinery, most petroleum products are shipped out through pipelines. There are about 230,000 miles of underground pipeline in the United States. Pipelines are the safest and cheapest way to move big shipments of petroleum. It takes about 15 days to move a shipment of gasoline from Houston, Texas to New York City.

Special companies – called *jobbers* – buy petroleum products from oil companies and sell them to gasoline stations and to other big users such as industries, power companies and farmers.

Oil and the Environment

Petroleum products – gasoline, medicines, fertilizers and others – have helped people all over the world. But there is a trade-off. Petroleum production and petroleum products may cause air and water pollution. Drilling for oil may disturb fragile land and ocean environments. Transporting oil may endanger wildlife if it's spilled on rivers and oceans. Burning gasoline to fuel our cars pollutes the air. Even the careless disposal of motor oil drained from the family car can pollute streams and rivers.

South Carolina has one of the nation's best programs for do-it-yourself oil changers. To learn more about this program, please call **1-800-768-7348**.



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